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# PATENT SPECIFICATION

DRAWINGS ATTACHED

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## COMPLETE SPECIFICATION

### Improvements in or relating to Hose Couplings

We, N. V. PHILIP'S GLOELAMPENFABRIKEN, a limited liability Company, organized and established under the laws of the Kingdom of the Netherlands, of Emmasingel 29, Eindhoven, Holland, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention relates to a hose coupling, more particularly consisting of synthetic resin, for establishing a connection between a hair-drying hood and a flexible air hose of the kind in which a first sleeve at the insertion end of the hose and a second coupling sleeve in the insertion opening of the hood can be coupled with one another by means of resilient tags provided on the first sleeve and gripping around an internal annular rim of the second sleeve.

Such hose couplings in which the inserted end of the flexible hose can rotate about its axis in the insertion opening without causing an impermissible leakage of air are already known. In one known coupling of this kind, this was achieved by arranging a rib on the tubular coupling member at the end of the hose to be drawn against the outer edge of the insertion sleeve by means of resilient tags gripping around an annular rim of the insertion opening.

In this known arrangement, the rotation of the flexible hose is restrained by the comparatively high frictional resistance which is due to the fact that a firm attraction of the parts is required to prevent leakage. Furthermore, the resilient tags must be operated separately by a finger of the hand in order to unfasten the coupling.

It is also known *per se* to establish a plug-in connection by telescoping two lengths of tubing, one length of tubing gripping by resilient tags protruding at its edge around the other,

in which case, however, there also exists a comparatively high frictional resistance to relative rotation.

The object of the invention is to provide a coupling the two parts of which can be connected and disconnected without the use of tools, while the resistance to relative rotation is low and the parts of the coupling may consist of synthetic resin material and may have a small length so that they are suitable to be secured to a thin flexible hair drying hood.

According to the invention a hose coupling of the kind first above referred to is characterised in that the resilient tags are formed by incisions in the wall of the first sleeve and cutting through a collar on the end of the sleeve, which tags are provided on both the entry and exit sides with a bevelled edge, the exit bevelled edge co-operating with a corresponding bevelled edge on the internal annular rim when the first sleeve is telescoped into the second sleeve until arrested by an external radial abutment flange on the first sleeve in which position the incisions in this sleeve are covered by the said internal annular rim of the second sleeve.

Since the basic member is a sleeve with a collar, the latter can be manufactured from thin-walled synthetic resin having sufficiently elastic properties and a uniformly resilient edge of sufficient strength can be obtained by distribution of a large number of the incisions along the periphery of the sleeve end. The resilient tags thus formed press resiliently in radial direction on the wall of the coupling sleeve constituting the other part of the coupling and the said abutment flange only serves to limit the insertion path until the collar parts of the resilient tags grip around the annular rim of the last-mentioned sleeve and it does not constitute a closure. The relative axial rotation of the coupling parts can therefore

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be effected with a very small amount of friction and the closure is ensured by the part of the cylindrical wall covering the ends of the incisions, i.e. extending so far beyond the incisions that undesirable escape of air through the incisions is prevented.

Further features of the invention will be apparent from the following description of one embodiment which is given by way of example only with reference to the accompanying drawings, in which:—

Figure 1 is an axial sectional view of a coupling sleeve constituting the insertion opening for receiving the end of a flexible air hose to be connected to a drying hood,

Figure 2 is an axial sectional view of the sleeve constituting the second coupling sleeve to be secured to the end of the flexible hose,

Figure 3 is a front elevation of the sleeve of Figure 1, and

Figure 4 is a front elevation of the sleeve of Figure 2.

The sleeve 1 shown in Figures 2 and 4 is provided at one end with an outwardly protruding collar 2 and this end exhibits incisions, for example, denoted by 3 which cut the collar 2. Furthermore, the sleeve 1 is provided with an abutment flange 4 which is located at a certain distance from the bottom ends 5 of the incisions 3, while the sleeve 1 is provided at its other end with an external helical rib 6. The end of a flexible hose can be fixed, for example, by screwing, on this sleeve portion when such a hose consists in known manner of a helical spring forming part of the synthetic resin of the hose wall.

The sleeve 7 shown in Figures 1 and 3 which constitutes the insertion opening of the hair-drying hood is provided at its rear end with a flange having apertures 9 so that this sleeve can be firmly secured in known manner, for example, by thermal welding, to the rim of an opening provided in the hair-drying hood. This sleeve 7 is internally provided with a wide annular rim 8 and between the front end and this rim extends a conical surface 14. Along this surface slides the bevelled edge 10 on the entry side of the collar 2 of the sleeve 1 when this sleeve is inserted into the sleeve 7. When the terminal edge 11 of the latter sleeve abuts against the flange 4 of the sleeve 1, the collar 2 has moved beyond the annular rim 8 and the bevelled edge 12 on the rear or exit side of the collar 2 is located adjacent the corresponding bevelled edge 13 on the rear side of the annular rim 8. Due to the two last-mentioned inclined surfaces, the sleeve 1 can be withdrawn again in axial direction by exerting a slight amount of force without a tool being required for the insertion or withdrawal.

After the sleeve 1 has been inserted into the sleeve 7, the inner surface of the annular rim 8, which has a sufficient axial length to suit the purpose, surrounds the lower parts of the incisions 3 and extends beyond the ends 5 thereof so that a closure relatively free from undesirable air leakage is obtained without a resilient attraction against the abutment flange 4 being required, since this would cause an impermissible increase of the frictional resistance to rotation.

It should further be appreciated that in the axial direction the coupling occupies only a small length so that it hardly influences the flexibility of the hose and the hood and that the coupling parts can each be manufactured in one piece by comparatively inexpensive methods, while the material costs are also comparatively low.

#### WHAT WE CLAIM IS:—

1. A hose coupling, more particularly consisting of synthetic resin, for establishing a connection between a hair-drying hood and a flexible air hose, in which a first sleeve at the insertion end of the hose and a second coupling sleeve in the insertion opening of the hood can be coupled with one another by means of resilient tags provided on the first sleeve and gripping around an internal annular rim of the second sleeve, characterised in that the resilient tags are formed by incisions in the wall of the first sleeve and cutting through a collar on the end of the sleeve, which tags are provided on both the entry and exit sides with a bevelled edge, the exit bevelled edge co-operating with a corresponding bevelled edge on the internal annular rim when the first sleeve is telescoped into the second sleeve until arrested by an external radial abutment flange on the first sleeve, in which position the incisions in this sleeve are covered by the said internal annular rim of the second sleeve.

2. A hose coupling as claimed in Claim 1 wherein the inner wall surface of the second sleeve between its entrance end and the internal annular rim is of conical form to assist radial compression of the resilient tags as the first sleeve is entered into the second sleeve.

3. A hose coupling for establishing a connection between a hair-drying hood and a flexible air hose, substantially as herein described with reference to the accompanying drawings.

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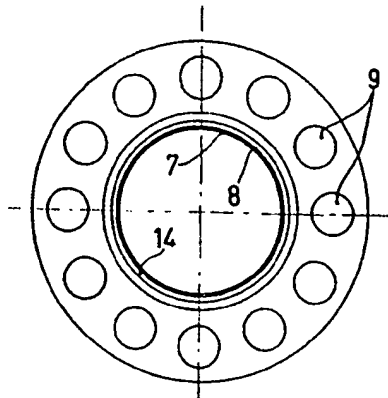


FIG. 3

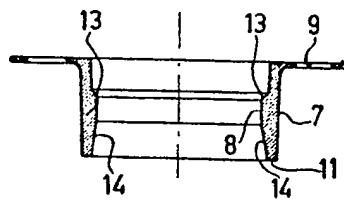


FIG. 1

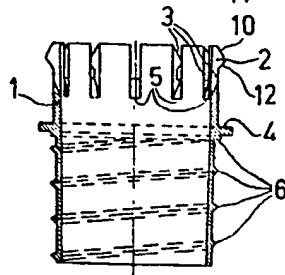


FIG. 2

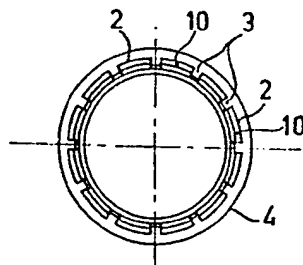


FIG. 4

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